IN THE CLAIMS

Please amend the claims as follows:

[1]1. (Currently Amended) A ~~method~~computer system for finding a worst case aggressor set of a victim net based on a plurality of logically exclusive sets, the computer system comprising instructions for:

forming a first set, wherein the first set comprises an aggressor net of the victim net;

using the first set and the plurality of logically exclusive sets to formulate a problem; and

solving the problem to determine a worst case aggressor net of the victim net, wherein the worst case aggressor set comprises the worst case aggressor net.

[2]2. (Currently Amended) The ~~method~~computer system of claim 1, wherein the plurality of logically exclusive sets comprises a mutually exclusive set, and wherein the mutually exclusive set comprises a signal net.

[3]3. (Currently Amended) The ~~method~~computer system of claim 1, wherein the aggressor net in the first set has a corresponding weight.

[4]4. (Currently Amended) The ~~method~~computer system of claim 1, solving the problem comprising instructions for:

finding the worst case aggressor net of the victim net.

[e5]5. (Currently Amended)The ~~method~~computer system of claim 1, further comprising instructions for:

    forming a second set, wherein the second set comprises an aggressor net that is in the first set and that is part of the plurality of logically exclusive sets.

[e6]6. (Currently Amended) The ~~method~~computer system of claim 5, further comprising instructions for:

    forming a third set, wherein the third set comprises an aggressor net that is in the first set but is not part of the second set.

[e7]7. (Currently Amended) The ~~method~~computer system of claim 6, wherein the aggressor net in the third set becomes part of the worst case aggressor set.

[e8]8. (Currently Amended) The ~~method~~computer system of claim 5, further comprising instructions for:

    reducing each of the plurality of logically exclusive sets to a second plurality of logically exclusive sets such that a net in a set of the second plurality of logically exclusive sets is part of the second set.

[e9]9.(Currently Amended) The ~~method~~computer system of claim 8, wherein an empty set in the second plurality of logically exclusive sets is removed from the second

4

plurality of logically exclusive sets.

[e10]10.(Currently Amended) The ~~method~~computer system of claim 8, solving the

problem comprising instructions for:

    using a first representation to represent a net in the second set;

    using a second representation to represent a set in the second plurality of

        logically exclusive sets; and

    creating an association between the first representation and the second

        representation when the net is part of the set.

[e11]11.(Currently Amended)The ~~method~~computer system of claim 10, wherein the first

representation is a first node, and wherein the second representation is a second

node.

[e12]12.(Currently Amended) The ~~method~~computer system of claim 10, wherein the

association is an edge.

[e13]13.(Currently Amended) The ~~method~~computer system of claim 10, further

comprising instructions for:

    selecting the second representation;

    selecting an adjacent net of the second representation such that the

        adjacent net has a weight greater than another adjacent net of the

        first representation;

5

adding the adjacent net to the worst case aggressor set;

removing an association of the second representation;

removing the second representation;

removing an association of the adjacent net;

removing the adjacent net; and

returning the worst case aggressor set when there are no representations of

the sets of the second plurality of logically exclusive sets

remaining in the problem.

[e14]14.(Currently Amended) The ~~method~~computer system of claim 1, wherein the

problem is represented graphically

[e15]15.(Currently Amended) The ~~method~~computer system of claim 12, wherein the

graphical representation is a bipartite graph.

[e16]16.(Currently Amended) A software tool that finds a worst case aggressor set of a

victim net, comprising:

a processor;

a memory; and

software instructions residing in the memory and executable in the

processor for performing a series of operations to find a worst case

aggressor net based on a plurality of logically exclusive sets.

6

[017]17.(Currently Amended) The software tool of claim 16, wherein the plurality of

logically exclusive sets comprises a mutually exclusive set, and wherein the

mutually exclusive set comprises a signal net.

[018]18.(Currently Amended) The software tool of claim 16, further comprising:

    a portion that forms a first set, wherein the first set comprise an aggressor

        net of the victim net;

    another portion that forms a second set, wherein the second set comprises

        an aggressor net that is part of the first set and that is part of the

        plurality of logically exclusive sets;

    another portion that forms a third set, wherein the third set comprises an

        aggressor net that is part of the first set but is not part of the second

        set;

    another portion that reduces the plurality of logically exclusive sets to a

        second plurality of logically exclusive sets such that a net in a set

        of the second plurality of logically exclusive sets is part of the

        second set; and

    another portion that formulates a problem based on the second set and the

        second plurality of logically exclusive sets.

[019]19.(Currently Amended) The software tool of claim 18, wherein the problem is

represented graphically.

7

[e20]20. (Currently Amended) The software tool of claim 19, wherein the graphical

representation is a bipartite graph.

[e21]21.(Currently Amended) The software tool of claim 18, wherein the aggressor net in

the first set has a corresponding weight.

[e22]22.(Currently Amended) The software tool of claim 18, wherein the worst case

aggressor set comprises an aggressor net in the third set.

[e23]23.(Currently Amended) The software tool of claim 18, wherein an empty set in the

second plurality of logically exclusive sets is removed from the second plurality

of logically exclusive sets.

[e24]24.(Currently Amended) The software tool of claim 18, the problem comprising:

    a portion that uses a first representation to represent a net in the second

        set;

    another portion that uses a second representation to represent a set in the

        second plurality of logically exclusive sets; and

    another portion that creates an association between the first representation

        and the second representation when the net is part of the set.

[e25]25.(Currently Amended) The software tool of claim 24, wherein solving the

problem determines the worst case aggressor net, the software tool further

8

comprising:

a portion that selects a set in the second plurality of logically exclusive

sets;

another portion that selects an adjacent net of the set such that the adjacent

net has a weight greater than another adjacent net of the set;

another portion that adds the adjacent net to the worst case aggressor set;

another portion that removes an association of the set;

another portion that removes the set;

another portion that removes an association of the adjacent net;

another portion that removes the adjacent net; and

another portion that returns the worst case aggressor set when there are no

sets of the second plurality of logically exclusive sets remaining.

[e26]26.(Currently Amended) A method computer system for solving a problem to find a

worst case aggressor net based on a logically exclusive set, the computer system

comprising instructions for:

using a first representation to represent the logically exclusive set;

selecting the first representation;

selecting a second representation, wherein the second representation

represents an adjacent net of the first representation;

removing an association of the first representation;

removing the first representation;

removing an association of the second representation;

removing the second representation; and

returning the adjacent net represented by the second representation as the

worst case aggressor net.

[e27]27.(Currently Amended) The method computer system of claim 26, wherein the first

representation is a first node, and wherein the second representation is a second

node.

[e28]28.(Currently Amended) The method computer system of claim 26, wherein the

association of the first representation is an edge, and wherein the association of

the second representation is an edge.

[e29]29.(Currently Amended) The method computer system of claim 26, wherein the

adjacent net represented by the second representation has a weight greater than

another net in the problem.

[e30]30.(Currently Amended) The method computer system of claim 26, wherein the

problem is represented graphically.

[e31]31.(Currently Amended) The method computer system of claim 26, wherein the

graphical representation is a bipartite graph.

[e32]32.(Currently Amended) A software tool comprising:

16

a processor;

a memory; and

software instructions residing in the memory and executable in the

processor for performing a series of operations for solving a

problem to find a worst case aggressor net based on a logically

exclusive set.

[e33]33.(Currently Amended) The software tool of claim 32, further comprising:

a portion that uses a first representation to represent the logically exclusive

set;

another portion that selects the first representation;

another portion that selects a second representation, wherein the second

representation represents an adjacent net of the first representation;

another portion that removes an association of the first representation;

another portion that removes the first representation;

another portion that removes an association of the second representation;

another portion that removes the second representation; and

another portion that returns the adjacent net represented by the second

representation as the worst case aggressor net.

[e34]34.(Currently Amended) The software tool of claim 33, wherein the adjacent net

represented by the second representation has a weight greater than another net in

the problem.

11

[e35]35.(Currently Amended) The software tool of claim 32, wherein the problem is

represented graphically.

[e36]36.(Currently Amended) The software tool of claim 35, wherein the graphical

representation is a bipartite graph.

[e37]37.(Currently Amended) A method_omputer system for formulating a problem to

find a worst case aggressor net of a victim net based on a logically exclusive set,

the computer system comprising instructions for:

    using a first representation to represent a net, wherein the net is an

        aggressor net of the victim net and is part of the logically exclusive

        set;

    using a second representation to represent a set, wherein the set is the

        logically exclusive set; and

    selectively creating an association between the first representation and the

        second representation when the net is part of the set.

[e38]38.(Currently Amended) The method_computer system of claim 37, wherein the first

representation is a first node, and wherein the second representation is a second

node.

[e39]39.(Currently Amended) The method_computer system of claim 37, wherein the

12

association is an edge.

[e40]40.(Currently Amended) A software tool, comprising:

a processor;

a memory; and

software instructions residing in the memory and executable in the

processor for performing a series of operations for formulating a

problem to find a worst case aggressor net of a victim net based on

a logically exclusive set.

[e41]41.(Currently Amended) The software tool of claim 40, further comprising:

a portion that uses a first representation to represent a net, wherein the net

is an aggressor net of the victim net and is part of the logically

exclusive set;

another portion that uses a second representation to represent a set,

wherein the set is the logically exclusive set; and

another portion that selectively creates an association between the first

representation and the second representation when the net is part of

the set.